

CLAIMS

1           1.    A method for designing custom, primarily decorative  
2 stonework, comprising:

3           selecting at least one unit of a plurality of units,  
4 wherein each unit of the plurality of units at least  
5 corresponds to an architectural feature, and wherein the at  
6 least one unit comprises a plurality of parts;

7           selecting at least a primary view of the unit, wherein  
8 the primary view depicts an overall view of the at least one  
9 unit;

10          selecting at least one profile of a plurality of  
11 profiles, wherein each profile of a plurality of profiles  
12 corresponds to at least a cross-sectional view of the at least  
13 one unit;

14          inputting at least one dimension of a plurality of  
15 dimensions, wherein the at least one dimension corresponds to  
16 at least a physical dimension of the at least one unit;

17          parametrically calculating one or more other dimensions  
18 of the unit based upon the input of at least one dimension and  
19 unit size, and further at least determining relative sizes of  
20 the plurality of parts of the at least one unit based upon  
21 said input dimension; and

22       generating at least one scaled drawing, wherein the  
23 scaled drawing at least has numbers that corresponds to at  
24 least one dimension of the plurality of parts of the at least  
25 one unit.

1       2.    The method of Claim 1, wherein the step of selecting  
2 the at least one unit of the plurality of units further  
3 comprises selecting from a database organized by parts, units,  
4 and profiles.

1       3.    The method of Claim 1, wherein the step of selecting  
2 the at least one unit of the plurality of units further  
3 comprises selecting the at least one unit from a database  
4 wherein each part of the plurality of parts that comprise each  
5 unit of the plurality of units is at least referenced by a  
6 part identifier.

1       4.    The method of Claim 1, wherein the step of  
2 generating the scaled drawing further comprises generating a  
3 scaled drawing that is at least configured to be a Computer  
4 Aided Design (CAD) drawings.

1        5.    The method of Claim 4, wherein the step of  
2    generating at least one scaled drawing further comprises:

3        accessing a computer database that is at least stored in  
4    a computer memory;

5        retrieving a plurality of part identifiers of the  
6    plurality of parts that comprise the at least one unit;

7        retrieving CAD drawings for each of the plurality of part  
8    identifiers;

9        rescaling the CAD drawings for each part of the plurality  
10   of parts that comprise the at least one unit;

11       rendering the CAD drawings; and

12       plotting or printing the CAD drawings.

1       6.    A method for electronically custom designing  
2    primarily decorative stonework, comprising:

3        selecting at least one unit from a plurality of units  
4    from a computer database stored in a computer memory, wherein  
5    the plurality of units are organized such that a plurality of  
6    parts that comprise each unit is logically associated to each  
7    of the respective units;

8        selecting at least one profile of a plurality of  
9    profiles, wherein each one profile of the plurality of

10 profiles corresponds to at least a primary cross-sectional  
11 view of the at least one unit;

12 entering physical dimension data of the at least one unit  
13 into a computer that is at least coupled to the computer  
14 memory, wherein the physical dimension data is at least  
15 configured to be unit-specific dimensional measurements;

16 calculating the physical dimensions of each of the parts  
17 comprising the at least one unit, wherein a plurality of  
18 parametric equations are at least employed and wherein the  
19 plurality of parametric equations are at least configured to  
20 utilize summing means and squaring means;

21 accessing the computer database that is at least stored  
22 in a computer memory;

23 retrieving a plurality of part identifiers of the  
24 plurality of parts that comprise the at least one unit;

25 retrieving CAD drawings for each of the plurality of part  
26 identifiers;

27 rescaling the CAD drawings for each part of the plurality  
28 of parts that comprise the at least one unit;

29 rendering the CAD drawing; and

30 plotting or printing the CAD drawings.

1        7.    A computer program product for designing custom,  
2 primarily decorative stonework, the computer program product  
3 having a medium with a computer program embodied thereon, the  
4 computer program comprising:

5        computer program code for selecting at least one unit of  
6 a plurality of units, wherein each unit of the plurality of  
7 units at least corresponds to an architectural feature, and  
8 wherein the at least one unit of the plurality of units  
9 comprises a plurality of parts;

10       computer program code for selecting at least a primary  
11 view, wherein the primary view depicts an overall view of the  
12 at least one unit;

13       computer program code for selecting at least one profile  
14 of a plurality of profiles, wherein each profile of the  
15 plurality of profiles corresponds to at least a primary cross-  
16 sectional view of the at least one unit;

17       computer program code for inputting at least one  
18 dimension of a plurality of dimensions, wherein the at least  
19 one dimension is at least a physical dimension of the at least  
20 one unit;

21       computer program code for parametrically calculating one  
22 or more other dimensions of the unit based upon the input of

23 at the least one dimension, and further at least determining  
24 relative sizes of the plurality of parts of the at least one  
25 unit based upon said input dimension; and  
26 computer program code for generating at least one scaled  
27 drawing, wherein the scaled drawing at least has identifiers  
28 that correspond to the plurality of parts of the at least one  
29 unit.

1 8. The computer program product of Claim 7, wherein the  
2 computer program code for selecting the at least one unit of  
3 the plurality of units further comprises computer program code  
4 for selecting from a database organized by part, units, and  
5 profiles.

1 9. The computer program product of Claim 7, wherein the  
2 computer program code for selecting the at least one unit of  
3 the plurality of units further comprises computer program code  
4 for selecting the at least one unit from a database wherein  
5 each part of the plurality of parts that comprise each unit of  
6 the plurality of units is at least referenced by a part  
7 identifier.

1        10. The computer program product of Claim 7, wherein the  
2 computer program code for generating the scaled drawing  
3 further comprises computer program code for generating a  
4 scaled drawing that is at least configured to be a CAD  
5 drawing.

1        11. The computer program product of Claim 10, wherein  
2 the computer program code for generating at least one scaled  
3 drawing further comprises:

4        computer program code for accessing a computer database  
5 that is at least stored in a computer memory;

6        computer program code for retrieving a plurality of part  
7 identifiers of the plurality of parts that comprise the at  
8 least one unit;

9        computer program code for retrieving CAD drawings for  
10 each of the plurality of part identifiers;

11       computer program code for rescaling the CAD drawings for  
12 each part of the plurality of parts that comprise the at least  
13 one unit;

14       computer program code for rendering the CAD drawing; and

15       computer program code for plotting or printing the CAD  
16 drawings.

1        12. A computer program product for electronically custom  
2 designing primarily decorative stonework, the computer  
3 program, product having a medium with a computer program  
4 embodied thereon, the computer program comprising:

5        computer program code for selecting at least one unit  
6 from a plurality of units from a computer database stored in a  
7 computer memory, wherein the plurality of units are organized  
8 such that a plurality of parts that comprise each unit is  
9 logically associated to each of the respective units;

10       computer program code for selecting at least one profile  
11 of a plurality of profiles, wherein each profile of a  
12 plurality of profiles corresponds to at least a primary cross-  
13 sectional view of the at least one unit;

14       computer program code for entering physical dimension  
15 data of the at least one unit into a computer that is at least  
16 coupled to the computer memory, wherein the physical dimension  
17 data is at least configured to be unit-specific dimensional  
18 measurements;

19       computer program code for calculating the physical  
20 dimensions of each of the parts comprising the at least one  
21 unit, wherein a plurality of parametric equations are at least  
22 employed and wherein the plurality of parametric equations are



23 at least configured to utilize summing means and squaring  
24 means;

25 computer program code for accessing the computer database  
26 that is at least stored in a computer memory;

27 computer program code for retrieving a plurality of part  
28 identifiers of the plurality of parts that comprise the at  
29 least one unit;

30 computer program code for retrieving CAD drawings for  
31 each of the plurality of part identifiers;

32 computer program code for rescaling the CAD drawings for  
33 each part of the plurality of parts that comprise the at least  
34 one unit;

35 computer program code for rendering the CAD drawing; and

36 computer program code for plotting or printing the CAD  
37 drawings.

1 13. A processor for designing custom, primarily  
2 decorative stonework, the processor including a computer  
3 program comprising:

4 computer program code for selecting at least one unit of  
5 a plurality of units, wherein each unit of the plurality of  
6 units at least corresponds to an architectural feature, and

7 wherein each unit of the plurality of units comprises a  
8 plurality of parts;

9 computer program code for selecting at least a primary  
10 view, wherein the primary view at least depicts an overall  
11 view of the at least one unit;

12 computer program code for selecting at least one profile  
13 of a plurality of profiles, wherein each profile of a  
14 plurality of profiles corresponds to at least a primary cross-  
15 sectional view of the at least one unit;

16 computer program code for inputting at least one  
17 dimension of a plurality of dimensions, wherein the at least  
18 one dimension is at least a physical dimension of the at least  
19 one unit;

20 computer program code for parametrically calculating at  
21 least one or more other dimensions of the unit based upon the  
22 input of at least one dimension corresponding to unit size,  
23 and further at least determining relative sizes of the  
24 plurality of parts of the at least one unit; and

25 computer program code for generating at least one scaled  
26 drawing, wherein the scaled drawing at least has identifiers  
27 that correspond to the plurality of parts of the at least one  
28 unit.

1        14. The computer program code of Claim 13, wherein the  
2 computer program code for selecting the at least one unit of  
3 the plurality of units further comprises computer program code  
4 for selecting from a database organized by part, units, and  
5 profiles.

1        15. The computer program code of Claim 13, wherein the  
2 computer program code for selecting the at least one unit of  
3 the plurality of units further comprises computer program code  
4 for selecting the at least one unit from a database wherein  
5 each part of the plurality of parts that comprise the at least  
6 one unit of the plurality of unit is at least referenced by a  
7 part identifier.

1        16. The computer program code of Claim 13, wherein the  
2 computer program code for generating the scaled drawing  
3 further comprises computer program code for generating a  
4 scaled drawing that is at least configured to be a CAD  
5 drawing.

1        17. The computer program code of Claim 16, wherein the  
2 computer program code for generating at least one scaled  
3 drawing further comprises:

4        computer program code for accessing a computer database  
5 that is at least stored in a computer memory;

6        computer program code for retrieving a plurality of part  
7 identifiers of the plurality of parts that comprise the at  
8 least one unit;

9        computer program code for retrieving CAD drawings for  
10 each of the plurality of part identifiers;

11       computer program code for rescaling the CAD drawings for  
12 each part of the plurality of parts that comprise the at least  
13 one unit;

14       computer program code for rendering the CAD drawing; and

15       computer program code for plotting or printing the CAD  
16 drawings.

1       18. A processor for electronically custom designing  
2 primarily decorative stonework, the processor including a  
3 computer program comprising:

4       computer program code for selecting at least one unit  
5 from a plurality of units from a computer database stored in a

6 computer memory, wherein the plurality of units are organized  
7 such that a plurality of parts that comprise each unit is  
8 logically associated to each of the respective units;

9 computer program code for selecting at least one profile  
10 of the plurality of profiles, wherein each profile of a  
11 plurality of profiles corresponds to at least a primary cross-  
12 sectional view of the at least one unit;

13 computer program code for entering physical dimension  
14 data of the at least one unit into the computer that is at  
15 least coupled to the computer memory, wherein the physical  
16 dimension data is at least configured to be unit-specific  
17 dimensional measurements;

18 computer program code for calculating the physical  
19 dimensions of each of the parts comprising the at least one  
20 unit, wherein a plurality of parametric equations are at least  
21 employed and wherein the plurality of parametric equations are  
22 at least configured to utilize summing means and squaring  
23 means;

24 computer program code for accessing the computer database  
25 that is at least stored in a computer memory;

26 computer program code for retrieving a plurality of part  
27 identifiers of the plurality of parts that comprise the at  
28 least one unit;

29 computer program code for retrieving CAD drawings for  
30 each of the plurality of part identifiers;  
31 computer program code for rescaling the CAD drawings for  
32 each part of the plurality of parts that comprise the at least  
33 one unit;  
34 computer program code for rendering the CAD drawing; and  
35 computer program code for plotting or printing the CAD  
36 drawings.

1 19. An apparatus for custom designing primarily  
2 decorative stonework, comprising:  
3 a unit selector, wherein the unit selector is at least  
4 configured to select at least one unit of a plurality of  
5 units, and wherein each unit of the plurality of units at  
6 least corresponds to a primarily decorative architectural  
7 feature, and wherein the at least one unit of the plurality of  
8 units comprises a plurality of parts;  
9 a primary view selector, wherein the primary view  
10 selector is at least configured to select at least a primary  
11 view, and wherein the primary view at least depicts an  
12 overall view of the at least one unit;  
13 a profile selector, wherein the profile selector is at  
14 least configured to select at least one profile of a plurality

15 of profiles, and wherein the one profile of a plurality of  
16 profiles corresponds to at least a primary cross-sectional  
17 view of the at least one unit;

18 a data input channel, wherein the data input channel is  
19 at least configured to receive at least one dimension of a  
20 plurality of dimensions, and wherein the at least one  
21 dimension is at least a physical dimension of the at least one  
22 unit;

23 a calculation unit, wherein the calculation unit is at  
24 least configured to parametrically calculate one or more other  
25 dimensions of the unit based upon the input at least one  
26 dimension corresponding to the unit size, and further at least  
27 determining relative sizes of the plurality of parts of the at  
28 least one unit based upon the input dimension; and

29 a drawing generator, wherein the drawing generator is at  
30 least configured to generate at least one scaled drawing, and  
31 wherein the scaled drawing at least has identifiers that  
32 corresponds to the plurality of parts of the at least one  
33 unit.

1 20. The apparatus of Claim 19, wherein the unit selector  
2 further comprises computer program code for selecting from a  
3 database organized by parts, units, and profiles.

1        21. The apparatus of Claim 19, wherein the unit selector  
2 further comprises computer program code for selecting the at  
3 least one unit from a database wherein each part of the  
4 plurality of parts that comprise each unit of the plurality of  
5 units is at least referenced by a part identifier.

1        22. The apparatus of Claim 21, wherein the drawing  
2 generator further comprises computer program code for  
3 generating scaled drawings that are at least configured to be  
4 CAD drawings.

1        23. The apparatus of Claim 22, wherein the drawing  
2 generator further comprises:

3        computer program code for accessing a computer database  
4 that is at least stored in a computer memory;

5        computer program code for retrieving a plurality of part  
6 identifiers of the plurality of parts that comprise the at  
7 least one unit;

8        computer program code for retrieving CAD drawings for  
9 each of the plurality of part identifiers;



10 computer program code for rescaling the CAD drawings for  
11 each part of the plurality of parts that comprise the at least  
12 one unit;  
13 computer program code for rendering the CAD drawing; and  
14 computer program code for plotting or printing the CAD  
15 drawings.

1 24. An apparatus for electronically custom designing  
2 primarily decorative stonework, comprising:

3 a unit selector, wherein the unit selector is at least  
4 configured to select at least one unit from a plurality of  
5 units from a computer database stored in a computer memory,  
6 and wherein the plurality of units are organized such that a  
7 plurality of parts that comprise each unit is logically  
8 associated to each of the respective units;

9 a profile selector, wherein the profile selector is at  
10 least configured to select at least one profile of a plurality  
11 of profiles, and wherein each profile of a plurality of  
12 profiles corresponds to at least a primary cross-sectional  
13 view of the at least one unit;

14 an data input channel, wherein the data input channel is  
15 at least configured to receive physical dimension data of the  
16 at least one unit into the computer that is at least coupled

17 to the computer memory, and wherein the physical dimension  
18 data is at least configured to be unit-specific dimensional  
19 measurements;

20 a calculation unit, wherein the calculation unit is at  
21 least configured to calculate the physical dimensions of each  
22 of part comprising the at least one unit, and wherein a  
23 plurality of parametric equations are at least employed and  
24 wherein the plurality of parametric equations are at least  
25 configured to utilize summing means and squaring means;

26 a pointer, wherein the pointer is at least configured to  
27 access the computer database that is at least stored in a  
28 computer memory;

29 a data retriever, wherein the data retriever is at least  
30 configured to retrieve a plurality of part identifiers of the  
31 plurality of parts that comprise the at least one unit;

32 a drawing retriever, wherein the drawing retriever is at  
33 least configured to retrieve CAD drawings for each of the  
34 plurality of part identifiers; and

35 a CAD unit, wherein the CAD unit is at least configured  
36 to:

37 rescale the CAD drawings for each part of the  
38 plurality of parts that comprise the at least one unit;

39 render the CAD drawing; and

ATTORNEY DOCKET NO.  
STNL 2656001

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40                   plot or print the CAD drawings.